

# SCHOOL SHOOTERS

The Impact of Pre-Attack  
Communications and  
Publications

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# ANALYSTS



**CHARLEY GLEESON / CTSC TEAM LEAD / PROJECT LEAD**

BASED IN THE UNITED KINGDOM

**BRIANNA CORRIE / CTSC ASSISTANT TEAM LEAD**

BASED IN THE UNITED STATES

**MARIA ZUPPELLO / CTSC ASSISTANT TEAM LEAD**

BASED IN BRAZIL

**CHRISTIE HUI / CTSC TEAM EDITOR / CTSC INTELLIGENCE ANALYST**

BASED IN THE UNITED STATES

**BRANDON PACHMAN / CTSC INTELLIGENCE ANALYST**

BASED IN THE UNITED STATES

**CASSIDY FINNERTY / CTSC INTELLIGENCE ANALYST**

BASED IN THE UNITED STATES

**CHRISTIAN KELLAHER / CTSC INTELLIGENCE ANALYST**

BASED IN THE UNITED STATES

**LAURA VASILE / CTSC INTELLIGENCE ANALYST**

BASED IN ROMANIA

**HANA BULJKO / CTSC INTELLIGENCE ANALYST**

BASED IN THE UNITED KINGDOM

**ISIS GARRIGOS / SOCIAL MEDIA INTELLIGENCE ANALYST**

BASED IN SPAIN

# ANALYSTS

**BEATRIZ ADELL QUESADA / B/L TEAM LEAD**

BASED IN SPAIN

**DIANA SMITH / B/L INTELLIGENCE ANALYST**

BASED IN THE UNITED STATES

**MARINA TOVAR / CICYBER TEAM LEAD**

BASED IN SPAIN

**KEANNA GRELICH / CICYBER INTELLIGENCE ANALYST**

BASED IN THE UNITED STATES

**JESSE ROBERT / DATA ANALYST**

BASED IN THE UNITED STATES

**SHADI HIWIADI / DATA ANALYST**

BASED IN THE UNITED STATES

**SHANITA ADAMS / DATA ANALYST**

BASED IN THE UNITED STATES

**TALHA TARIQ / DATA ANALYST**

BASED IN THE UNITED STATES

**CLEA GUASTAVINO / SENIOR EDITOR**

BASED IN ARGENTINA

**CASSANDRA TOWNSEND / SENIOR EDITOR**

BASED IN THE UNITED STATES

**JASON BRATCHER / EDITOR**

BASED IN THE UNITED STATES

**SACHIN K / EDITOR**

BASED IN AUSTRALIA

**SARAH BIGALBAL / EDITOR**

BASED IN THE UNITED STATES



# ABOUT



## **THE COUNTERTERRORISM GROUP**

The Counterterrorism Group (CTG) is a unit of Paladin 7, the global risk consulting and security firm. CTG proactively searches for and analyzes the threat of terrorism that comes from International Terrorist Organizations, Domestic Terrorist Organizations, and Individuals determined to inflict terror upon societies, organizations, and individuals. Our international and national security professionals set up protective measures to examine, prevent, discourage, and dissuade any terrorist organization or individual from carrying out attacks. We work to protect our clients from any terrorist threat or attack. We also work proactively with the proper authorities to find those in terrorist organizations and individuals who will cause harm, by mitigating threats and assisting authorities in bringing them to justice.

CTG assists in setting up the right systems, tactics, techniques, and personnel to effectively detect, deter, and defeat terrorist attacks. Our body works to understand the threats, tactics, and methods posed, as well as the individuals and organizations participating in terrorism, and develops and implements systems, strategies, plans, and solutions that prevent and counter these attacks and actors. We work to ultimately defeat terrorist organizations and individuals who want to inflict terror. CTG has the capabilities to provide intelligence analysis, counterterrorism training, protection and security teams, and other unique solutions to the threats of today.

# ABOUT



## **SPECIALIST COUNTER THREAT STRATEGIC COMMUNICATIONS TEAM**

CTG's specialty Counter Threat Strategic Communications (CTSC) Team focuses on areas of Information Operations and Strategic Communications. The CTSC Team has capabilities and experience in misinformation, disinformation, counter-messaging, information warfare, conspiracy theories, and propaganda detection, analysis, and consultation. The CTSC Team is composed of linguistically and culturally diverse analysts utilizing training and academic knowledge to ensure individual, corporate, government, and non-state actors cannot jeopardize the United States' strategic interests via information operations and the spread of deceitful and harmful information, particularly in the online environment. For this project, the CTSC has worked in collaboration with the Behavior and Leadership (B/L), Counterintelligence and Cyber (CICYBER), and Development teams. Throughout this report, no names of school shooters have been used, they have been coded with the targeted school to reduce the cyclical nature of hero-worship within school shooter culture. Furthermore, no links have been provided to school shooters' materials, if you would like to review these materials for further research, please contact [info@counterterrorismgroup.com](mailto:info@counterterrorismgroup.com) from an official organization-affiliated email address. This report was compiled on December 2021 and all facts are accurate as of then.

Sincerely,  
Charley Gleeson, **CTSC Team Lead**  
Beatriz Adell Quesada, **B/L Team Lead**  
Marina Tovar, **CICYBER Team Lead**



## INTRODUCTION

School shooters are individuals who execute targeted or rampage attacks on an educational institution using firearms to cause fatalities or casualties,[1] usually planned in advance of the attack.[2] Rampage attacks are attacks that result in a usually high number of random casualties due to the frenzied and unpredictable nature of the attack.[3] School shooters are generally lone actors, dyads (two perpetrators) or triads (three perpetrators). Lone actors are single perpetrators who use violence and act without any support in planning, preparation, and execution of the attack. [4] Within lone-actor terrorism, 75% of school shooters experienced social isolation and 63% presented indications of mental health disorders. [5] Dyads and triads present a typical pattern in that they often have contrasting personalities: a dominant leader and a submissive follower or followers.[6] This project will refer to individual actors, dyads, and triads as “lone actors,” consistent with terrorism literature. The full list of school shootings references in this project can be found in Appendix A. Within this project, the CTSC Team has analyzed the pre-attack communications and publications of lone-actor school shooters to determine their audience, aims, and objectives. The B/L Team has provided insight into the cyclical hero-worship nature of school shooting events, with particular reference to the 1999 Columbine High School attack as a script for later school shootings. The CICYBER Team has highlighted the use of alt-tech and small tech platforms by school shooters to disseminate their messages, furthering the reach of their content to advance the hero-worship cycle. This project concludes with



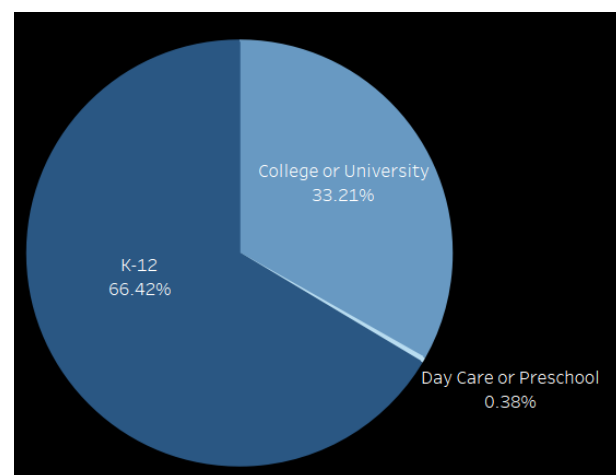
recommendations to governments, non-governmental organizations (NGOs), media entities, social media companies, schools, and individuals based on the analysis to assist in preventing future school shooter attacks. A primary recommendation made is for media companies to omit the name of any school shooters within publications to assist in breaking the cycle of hero-worship and content dissemination. Throughout this project, that recommendation has been followed and all school shooting events have been referred to by location, rather than by the name of the perpetrator.

## CONTEXT

### Historical Background

The majority of the shooters examined in the report are current or former students of the schools they target. Like the Columbine attackers, they are often young males who have a disciplinary record or violent background and target suburban public high schools. According to the Federal Bureau of Investigation (FBI), 20.6% of US shootings from 2000 to 2018 targeted educational institutions.[7] Schools are likely the most critical place for these shooters to attack since it represents their primary reality. It likely is also where they experience emotions that may lead to rage if not appropriately managed. Bad school experiences also likely foster a victim mentality, with revenge later exploited to justify violence. Research by Everytown on school shootings shows that there were 549 school gunfire incidents with 347 occurring at elementary, middle, and high schools in the US from 2013-2019.[8] K-12 institutions are more likely at risk of attacks since

shooters are likely to consider this age group easier targets due to their relative vulnerability. Students' social changes during high school, such as increased responsibilities at school and home and their first sexual interactions, likely make them more at risk of committing attacks if they do not properly emotionally handle them. Experiences outside of school, such as abuse at home, likely impact individuals' perspectives and decision-making, resulting in reactionary behaviors that can sometimes lead to attacks.



Gunfire on School Grounds in the United States

In a study on 160 school shootings worldwide, about 25% of the perpetrators had an obsession with firearms or the military, been active in a military organization, or had family members in the military.[9] Because guns and the military are global and recurrent parameters, they likely have a role in developing a potential shooter, as happened in the Columbine attack.[10] In a country like the US, adolescents whose family owns firearms can easily get access to weapons due to lax firearm regulations. Despite the 1994 US Federal Assault Rifles Ban, which made semi-automatic and assault weapons illegal to sell to



consumers, the gun industry modified firearms to make them indistinguishable and accessible to everyone.[11] Millions of homes in the US contain an unlocked, loaded firearm, likely increasing children's uncontrolled gun access.[12] In Europe, individuals purchasing a firearm need a specific police license, and keeping it at home requires a detailed police station registration.[13] The hyper-controlled access to weapons in Europe likely contributed to a reduced number of school shootings. European constitutions also do not have a principle similar to the Second Amendment in the US, namely the right to own firearms for self-defense. Instead, the European model seeks to promote institutions to safeguard citizens, which is likely a deterrent to a "do-it-yourself" approach and gun ownership.

School shooters frequently have issues with their relationships with their parents.[14] Their anger against the outside world likely turns into anger at family, or vice versa. The lack of healthy relationships likely promotes a lack of communication and isolation, and vice versa. If they are experiencing emotional distress, they very likely rebel against their parents or teachers, triggering a process of violence that can result in some form of attack. Poor family relationships are also likely to result in minimal monitoring, which leads to unfiltered screen time spent alone watching violent content. Because of the lack of supervision at home, the shooters are likely to have uncontrolled access to weapons. Unstable home lives likely exacerbate school shooters' psychological disorders. Factors such as divorce, parental alcoholism, or domestic abuse likely prevent them from managing conflict and stress, increasing their risk of attack. Exposure to such instability, especially alcoholism or domestic abuse, likely leads shooters to repeat similar

behavior and turn to substances, as with the Stoneman Douglas perpetrator.

Social exclusion and mental health disorders are recurrent patterns in the school shooters' profiles. Depression, anxiety, and paranoia can hinder socialization, especially in adolescent environments that often exclude others.[15] Their failure to create healthy connections likely leads them to seek out other people with psychological issues, in person or online. Social exclusion and mental health issues can also explain why school shooters tend to commit suicide after the attack. "Aggrieved entitlement" describes the feeling of being wronged by the world and often inspires violent retribution as compensation for humiliation.[16] Individuals who experience this humiliation are more likely to report higher levels of suicidal and homicidal ideation.[17] Rather than committing suicide alone, school shooters are likely to engage in homicidal ideation to have a more potent effect on society at large and frame their suicide around violence instead of vulnerability.

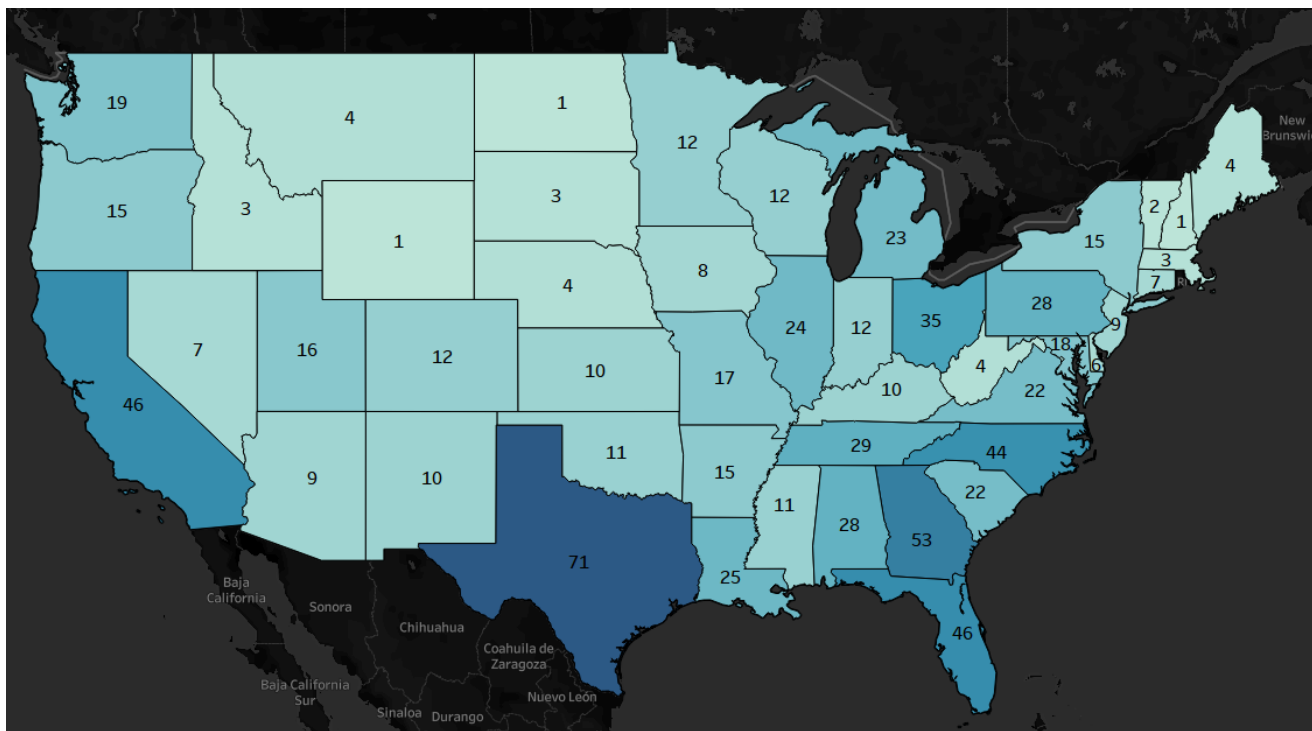
Rampage school shootings have increased and become the preferred style of attack.[18] Because attackers in a rampage shooting aim randomly rather than at a specific individual, more people who have a significant amount of rage are likely to carry out this type of shooting. High rates of fatalities are often the outcome, which garners a lot of media attention.[19] The aim for many school shooters, especially rampage school shooters, is likely to increase the amount of media coverage of the incident to gain notoriety. Fame likely amplifies their suicide as an ultimate assertion of their identity, something they could not affirm while alive. As school shooters frequently use the manifestos of earlier shooting

incidents as inspiration, the aim of their actions is also likely for their attacks to be used as scripts for future school shooters.

The Columbine shootings' media domination of 1999 almost certainly substantiated its role as a prototypical school shooting.[20] The step-by-step instructions detailed in the journals left behind likely increased the appeal of school shootings to others, as they now had a clear attack plan to imitate. As more school shootings occurred, attacks were likely turned into games, and copycat attacks likely sought to supersede the Columbine fatalities. Columbine's influence almost certainly inspired shootings in the US and abroad, as some

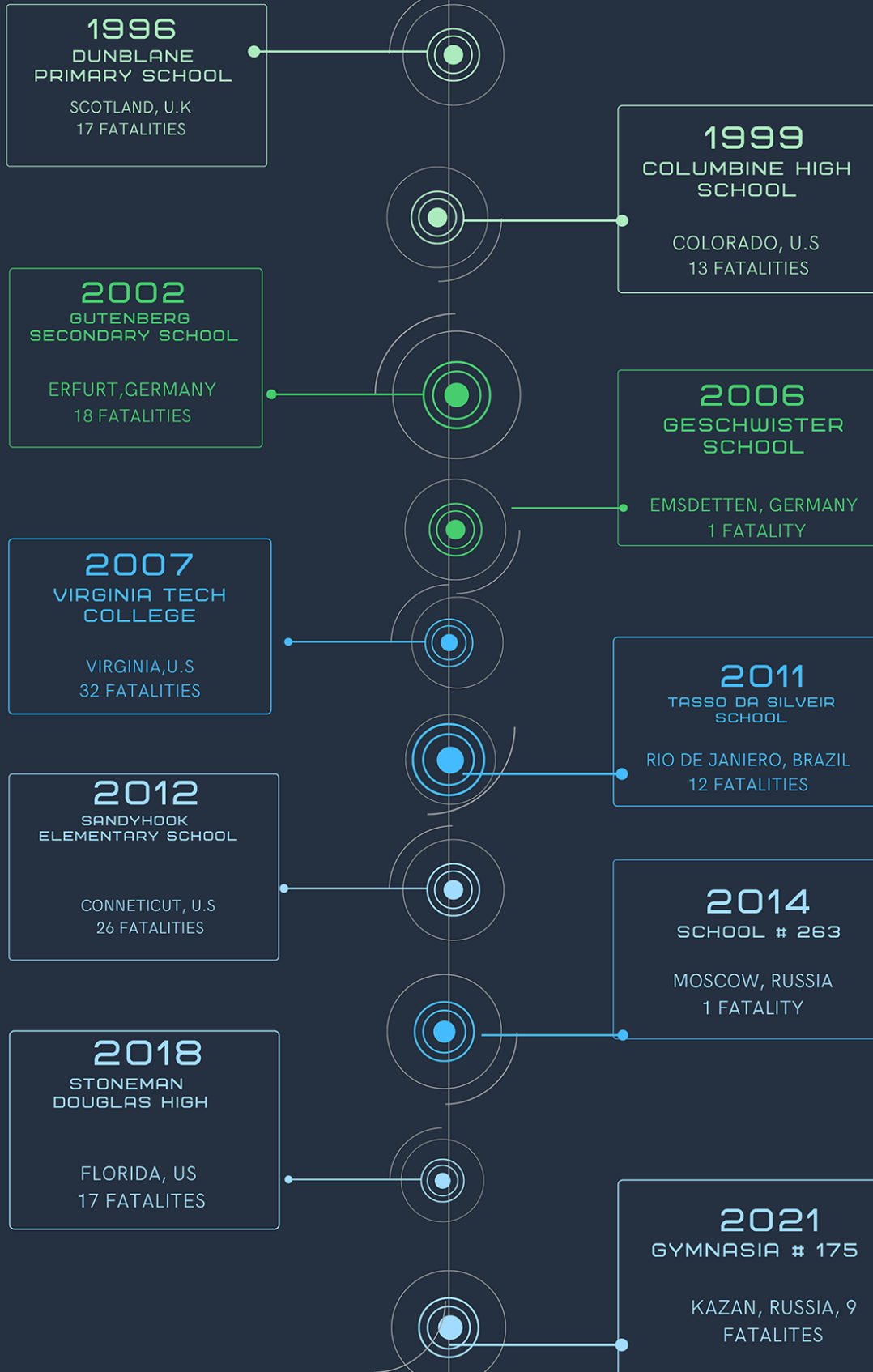
shooters have publicly asserted Columbine as a motivator.

The FBI's threat assessment investigates school shootings in-depth, the scope of the threat, and the parameters to classify an individual as a school shooter.[21] This contrasts with the media's sensationalism, which often reports unverified impressions on school shooters. The recurrent use of terms like "epidemic" and "revenge" to describe school violence is likely to promote psychological stigmas. A standardized public database based on the FBI approach would likely allow the media to collect objectives, trends, or similarities across shooters, allowing them to reduce stigma and bias and decrease the copycat effect.



Map of US school shootings[22]

# CAMPUS SHOOTINGS



### Chronological Analysis

In the 19th century, roughly a dozen school shootings were documented in the US.[23] As criminal registers were created in the 18th century, it is unknown if this is different from previous years. However, the lack of formal education institutions and the high cost of firearms in the 18th century likely indicates that the number of school shootings has increased over time. While basic school security measures, such as surveillance cameras and school guards, reduced the likelihood of school shootings during the 20th century, violent attacks have grown more fatal since the 1990s worldwide. The rate of school shootings in the US has grown from 6.4 incidents per year between 2000-2007 to 16.4 incidents per year between 2011-2018, peaking each year from 2017 to 2019.[24]

In Scotland, a school shooter killed 16 five- to six-year-old students at Dunblane Primary School on March 13, 1996.[25] Months before, he had written to Queen Elizabeth II and the Scottish Secretary, expressing his anger against the parents of his boy scout pupils, who he claimed had unfairly stated he was a “pervert.”[26] The authorities did not recognize this as a warning sign. Following the attack, the UK Parliament banned all private ownership of handguns by November 1997.[27] The lack of prominent gun culture in the UK and extensive media coverage on the ban were likely key factors in tightening gun control, which likely contributed to preventing school shootings in the UK since then.

Columbine started a new generation of school shootings. Since there was no “playbook” for how school shooters should act, dress, or speak until Columbine, the attack likely established a new guide for violence and iconography. Columbine

has inspired over 100 copycat attacks, including the Sandy Hook and Stoneman Douglas shootings. [28] The perpetrators left manifestos and videos which likely had a movie-like effect, turning the two attackers into celebrities. The internet has likely helped spread their negative messaging. A key factor of Columbine's fame is also the two perpetrators' opposite personalities and mental conditions; one set of diaries expressed narcissism and conceit, while the other revealed depression and self-hatred.[29] This combination likely expands the potential audience, since it allows for double identification and hero-worship or admiration that can lead to emulation. The fascination with violence is very likely the primary driver of their admiration. The Columbine shooters, like many others after them, were obsessed with guns and death. Talking about one's own or other people's violent deaths likely desensitizes the perpetrator and provides them with a script to follow, making it easier for them to commit a real-life crime.

US shootings inspired by Columbine have grown increasingly fatal and frequent. The Virginia Tech shooter in 2007 referred to the Columbine shooter as “martyrs” in video messages recorded before the attack, which was the deadliest in US history. [30] The university's emergency plan, which omitted shooting scenarios and a threat assessment team appointment and failed to quickly notify people about a shooting, was a primary factor in the high number of deaths.[31] Because the warning system failed to notify students and employees of the initial gunshot, the university likely lost critical time to secure students and employees. The lack of adequate security measures, such as cameras in communal areas and at entrances and locks on classrooms, likely allowed the attacker to move undetected with his weapons.



The Sandy Hook Elementary School shooting in 2012, like Columbine, resulted in a high number of casualties and fatalities.[32] The perpetrator's familiarity with mass shootings worldwide, including Columbine, exposed him to violent materials which likely inspired his attack.[33] His mental health problems, his troubled family life, and the young victims, aged six and seven, likely contributed to making Sandy Hook gain international attention. The following media pressure likely helped revive the gun control debate in the US. However, unlike the Dunblane shooting in Scotland, this conversation proved ineffective. The call for universal background checks on all firearm sales, as well as a ban on assault weapons and high-capacity magazines, failed to garner traction on a national level. As a result, the states that rejected the legislative reforms likely face more significant attack threats than the rest of the country. This federal disparity will likely make it more difficult to enact new national legislation in the long term.

There have been at least a dozen Columbine-influenced cases outside the US, from Canada to Europe and Latin America. Several Russian shooters have mentioned the attack as a source of inspiration.[34] Many of the perpetrators also wore long black coats in the Columbine style, like the 2002 Gutenberg Secondary School attack in Germany.[35] Others, such as the German Emsdetten school shooter, have referred to Columbine's perpetrators as gods or heroes in their writings.[36] The Columbine pattern is likely to be universal as anyone may identify with its violence, weapon obsession, and hatred. It also shows the media's and internet's ability to spread attacks widely. This global copycat effect will likely lead to a need for transnational cooperation among law enforcement to better address the issue at an international level.

# COLUMBINE HIGH SCHOOL

## SCHOOL SHOOTER PROFILE

### AGE

17 and 18

### EVENT

On April 20, 1999, the perpetrators arrived at the Columbine High School in Littleton, Colorado dressed in black trench coats and planted two duffel bags, each containing a 20-pound propane bomb, to kill hundreds of people.[37] They expected those escaping from the building to run into their secondary firearms attack.[38] After the bombs failed to explode, they began shooting students. The attack resulted in the injury of 23 people, 13 deaths (12 students and one teacher), and the perpetrators' suicides.[39] This was considered the deadliest school shooting in US history at the time and it sparked a national debate on gun control and school safety.

### MANIFESTO

The shooters' diaries show that the pair planned the attack up to a year in advance. If they had managed to escape the police, they planned to continue planting bombs in locations with significant consequences, like gas stations. One shooter wrote that the pair would hijack a plane in New York City if they did not manage to escape to a foreign territory following the Columbine attack.[40]

### FURTHER INFORMATION

The Columbine shooting has inspired more than 100 copycats.[41] The impact of the Columbine attack will likely continue to be detrimental for school safety because of the strong correlation between the shooters and potential copycats.

# VIRGINIA TECH COLLEGE

## SCHOOL SHOOTER PROFILE

### AGE

23

### EVENT

On April 16, 2007, a 23-year-old senior at Virginia Polytechnic Institute and State University committed one of the deadliest shootings in the US.[42] The shooting started around 0715 local time when the perpetrator killed two students in one of the university's dormitories.[43] He then traveled to a classroom building, armed with two guns, and began shooting students and faculty members around 0945 local time.[44] He killed 32 people, injured 17 others, and killed himself after the attack.[45]

### MANIFESTO

Between the shootings at the dormitory and classroom building, the perpetrator went to the post office to mail a package to NBC News.[46] The package included a 1,800-word manifesto titled "axishmiel," photographs of himself posing with a Glock 9mm automatic, a .22 caliber handgun, and a hunting knife; and a DVD featuring short videos of himself.[47]

### FURTHER INFORMATION

In his manifesto, the perpetrator empathized with the Columbine shooters, who he described as "brothers." [48] He perceived the Columbine shooters as martyrs on a "par with Jesus Christ," and stated "the world has forced him to join their ranks." [49] Based on his manifesto, the Columbine shooting almost certainly motivated him to carry out the attack. As a child, other children, including members of the church his family frequented, likely bullied him. [50] From an early age, the perpetrator's teachers acknowledged his suicidal and homicidal tendencies. [51] His inability to adapt to the US from South Korea and his mental health issues are believed to have played an important role in the Virginia Tech shooting.

# TASSO DA SILVEIRA MUNICIPAL SCHOOL

## SCHOOL SHOOTER PROFILE

### AGE

23

### EVENT

On April 7, 2011, the perpetrator arrived at the Tasso da Silveira Municipal School in Rio de Janeiro with two firearms and speed loaders.[52] Speed loaders are devices that fill in multiple bullets rather than an individual manually loading the gun by one bullet per use.[53] He posed as a lecturer to gain access to a Portuguese class on the second floor, where he shot boys in the arms and legs and females in the head. He deemed females as impure, which explains why he targeted males and females differently.[54]

### MANIFESTO

A letter found in the perpetrator's pocket after his death mentioned religion, provided specific details of how he would die, and begged forgiveness for what he had done.[55] The letter implied his actions were premeditated as he attempted to justify his actions through the bullying he had endured.[56] Several photographs showed the attacker at home, either pointing his rifle at the camera or at his head.[57] His actions were likely unpredictable due to a lack of contact with his adoptive family and long-term isolation, which likely worsened his mental health. He burnt his computer, which likely indicates that he felt he had no legacy to leave and that his message was not valuable enough to be shared.

### FURTHER INFORMATION

In his writings, the perpetrator referenced the Virginia Tech attacker and another Brazilian attacker who targeted Colonel Benedito Ortiz State School in 2003.[58] Following the September 11, 2001 World Trade Center attacks, the perpetrator stated that he desired to do the same thing to "Christ the Redeemer" in Rio de Janeiro and that he was a devout follower of Osama bin Laden.[59] His letters mentioned his obsession with bin Laden and the concept of Islamism's purity, which likely suggests he justified the attack through religious extremism.

# SANDY HOOK ELEMENTARY SCHOOL

## SCHOOL SHOOTER PROFILE

### AGE

20

### EVENT

On December 14, 2012, the perpetrator shot and killed his mother in their home before stealing her car and driving to Sandy Hook Elementary School.[60] He arrived at Sandy Hook with an AR-15, two semi-automatic pistols, a shotgun, and hundreds of rounds of ammunition in magazines.[61] He left the shotgun in the car and shot at a window after he could not enter through the locked doors.[62] By the end of the attack, he had killed a total of 20 children and seven adults, including his mother and himself.[63] During this time, the Sandy Hook school shooting was the second deadliest after Virginia Tech. Although the Virginia Tech school shooting resulted in more casualties, this school shooting elicited a different emotional reaction from the public as the majority of victims were elementary school children.

### MANIFESTO

The shooter did not write a formal manifesto or note but did have significant online communications before the attack, including roleplaying the Columbine shooting event with others online. The perpetrator had an online relationship with a female whom he role-played with, though he never revealed his own identity and only communicated under a random username.[64]

### FURTHER INFORMATION

The FBI discovered that the perpetrator created a detailed spreadsheet of previous mass murders.[65] While speaking with authorities, the woman he had had an online relationship with said it was obvious that he was depressed but never thought he was in the state of mind to harm himself or others.[66]

# STONEMAN DOUGLAS HIGH SCHOOL

## SCHOOL SHOOTER PROFILE

### AGE

19

### EVENT

On February 14, 2018, around 1419 local time, the perpetrator exited an Uber outside Stoneman Douglas High School and approached the building with a legally purchased AR-15-style semi-automatic rifle.[67] He entered the Freshman building and started firing down the corridors, killing 17 people and injuring 17 others within four minutes.[68] He left the building around 1428 local time, concealed by the crowd of escaping students, but he was arrested in nearby Coral Springs an hour later.[69] This was the deadliest high school shooting in US history.[70]

### MANIFESTO

In a series of cell phone videos filmed in the days preceding the shooting, the perpetrator detailed every step of his plan, including his goal to kill "at least 20 people." [71] He was disdainful toward the government and railed against political government programs, which he claimed have brainwashed society.[72] In the videos, he also admitted to living "in seclusion and solitude" and hating "everyone and everything." [73] His expulsion from Stoneman Douglas High School in early 2017 and the death of his mother four months before the attack likely fueled his loneliness. His choice to leave only videos instead of a written document likely indicates that he wanted his final message to be a visual image of himself to affirm his identity.

### FURTHER INFORMATION

Anyone who interacted with the perpetrator knew that he talked about firearms frequently and some others joked that if anyone were to become a school shooter, it would be this perpetrator.[74] Neighbors and others involved in the perpetrator's life identified his strong dislike for school and recognized him as depressed.[75]

## COMMUNICATION AND PUBLICATION TARGET AUDIENCE ANALYSIS

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The Columbine shooting represented a turning point in the history of school shootings in the US with a worldwide copy-cat effect.[76] The shooting and the perpetrators' notes and journals inspired most of the perpetrators of the following attacks, providing a template to potential school shooters and challenging them to "out-do" the Columbine attack, also known as the "Columbine Effect." [77] More specifically, more than 100 copycat plots or attacks have been registered across 30 different states in the US since the events on April 20, 1999. [78] The perpetrators of Sandy Hook Elementary School, Umpqua Community College, Orange High School, Emsdetten, and Virginia Tech College shootings actively expressed sympathy with the Columbine attackers. The shooters left manifestos, personal journals, or online posts and videos where they explained the thoughts, ideologies, and motives for their actions. These communications likely aim to target specific audiences and inspire them to do the same. Some of these materials are easily shared through online forums and websites, augmenting the number of people who are exposed to them. While not everyone is influenced the same way, individuals who are more prone to violence are much more likely to be inspired to act similarly. The type of content or its online availability together with the psychological, ideological, or personal circumstances of every individual are likely to determine their vulnerability to school shooters' publications and communications, and the predisposition and

probabilities of them ending up committing an attack.

Analyzing different publications and communications from school shooters has given an overview of the common characteristics to consider when detecting individuals who are susceptible and at risk of being influenced by these materials. The exploitation of shared traits, characteristics, and beliefs synthesizes the relationship between targeted audiences and school shooters' communications. Social and personal experiences, such as bullying or adaptability problems, likely directly impact the reasonings behind attacks.

School shooters likely exploit psychological characteristics through different communications and publications as these cognitive influences can directly affect decision-making. The impact and media coverage of the attack are likely to appeal to those who lack high self-esteem. A significant number of the attackers suffered from mental health issues, including depression; low self-esteem; or anti-social, destructive, or avoidant personalities. Low self-esteem is almost certainly an influencer when it comes to the desired effect of influencing someone to commit an attack, likely due to the lack of trust in themselves that increases the likelihood of being manipulated by the shooter's communications and publications. That could be seen with the Emsdetten School, Umpqua Community College, Campbell County High School, or Orange High School attacks. Individuals who are socially and mentally vulnerable likely have a high risk of being exploited by this type of communication. Additionally, these types of communications are likely to spread awareness for different mental health issues and their impact on the targeted audience.



One of the recurrent factors among the analyzed profiles is the perceived feeling of injustice. Most school shooters have been victims of bullying, rejection, or other traumatic events at some point in their lives that likely triggered the violent reaction. By sharing their thoughts through notes, posts, or manifestos, they likely intend to influence individuals who might have had the same experiences. It likely shows them a solution to their problems and revenge for the humiliation they have experienced, such as being picked on by their classmates. Any individuals who have suffered the same kinds of experiences are more likely to feel empathy with the shooter and ultimately be influenced and motivated to commit similar acts. In some cases, perpetrators have had suicidal tendencies and likely perceive death as the ultimate escape to their problems, seen by them committing suicide either during or after the events. “God-like” personalities are likely used as additional justification for the perpetrator's actions. Among the shooters, there were several who desired to commit the shooting as they viewed themselves as omniscient beings and had the feeling of being the “chosen ones” to comply with that duty. One of the perpetrators of the Columbine, as well as the perpetrators of Jokela High School, Orange High, and Emsdetten shootings, are some examples of this. Individuals with the same “God-like” type of personality are likely to be influenced by these kinds of communications and publications.

Political and demographic traits also provide some perspective on the complexity of the issue. Those behind the communication are likely to exploit demographic characteristics as attacks may be racially, religiously, or culturally biased and might target a specific age frame, gender, or geographic location. Our analysis indicated a general tendency

of non-specific targeted demographics, with some exceptions. In the majority of cases, the perpetrators did not address a specific audience based on age, gender, education level and type, political stance, or geographic location. In some cases, the attackers left a suicide note, which addressed particular demographics. The Millard South High School's shooter, for example, left a message addressed to his secondary school peers and their parents. Other communications targeted specific geographic locations and age demographics however, not all were limited to these parameters. Examples include communications and publications from the perpetrators of the Emsdetten, Campbell County High School, and Columbine shootings. While their messages had slight references to their specific geographic location, the publications were also applicable to those outside their proximity. If the school shooters did not address their victims, parents, and friends, the geography and age demographic were not the most significant factors in the shooters' materials compared with other characteristics analyzed.

Very few communications targeted a specific gender audience; some examples are those written by the attackers of the Aztec High School, Umpqua Community College, École Polytechnique de Montréal, and the Columbine's shooters. The Umpqua Community College perpetrator's writings targeted a white male audience, inciting them to show hate towards black men, a factor that is likely to influence those who hold similar beliefs. The Aztec High School and the École Polytechnique de Montreal shooters' communications also specifically targeted a male audience, both showing strong anti-feminist ideologies and hatred towards females that almost certainly drove them to commit the violent act.

Being exposed to misogynistic materials and ideologies likely influences individuals who already hold these beliefs. The publications from the youngest of the Columbine shooters had some passages dedicated to an unnamed female in his life, in which he dedicated his love and affection for her.[79] However, his desire to find love and failure to do so likely influenced his decision to commit the fatal events. Males exposed to his communications and who have witnessed a frustrating experience with love are likely to feel empathy and are likely in danger of ultimately being influenced to carry out an attack like his. Unless gender plays a significant role in the shooter's ideology or in their personal life, the attackers did not target a specific gender audience.

Education was overall not a significant element in school shooters' writings. While none of the analyzed content targeted a high level of education, some publications required a general understanding of specific concepts, such as those referring to capitalism, evolution, philosophy, consumerism, and existentialism to deeply understand the writings. Those individuals whose general understanding of these concepts and whose beliefs align with those from the shooter are more likely to develop a special interest in these particular communications. The rest of the publications and communications analyzed had a target audience whose level of education was primarily low-level or at any level of education at all. Low-level education coupled with factors like low self-esteem or destructive personalities are likely recurrent characteristics and need to be considered when evaluating and detecting potential future shooters.

Political beliefs are very likely to serve as an exploitation tactic due to the collaborative nature of people with shared beliefs. This is likely to serve as justification for the shooters' motives, as they may believe they are expressing their beliefs. The attackers' preference of producing politically loaded communications and publications originates from their own beliefs, those same beliefs with which they intend to influence the targeted audience, especially those holding the same ideologies as them. Half of all analyzed publications and communications targeted specific political views, with the majority leaning toward right-wing beliefs. The perpetrator of the Aztec High School shooting had a clear inclination towards far-right ideologies, including anti-semitic and white supremacist beliefs. A similar right-wing political stance is found with the perpetrator of the Stoneman Douglas High School shooting. The political factor is likely a strong influencer when it comes to reaching and influencing the targeted audience of communications and publications. By including their political stance in their messages, the school shooters can likely recruit others to their beliefs or influence individuals with the same beliefs to carry out a similar attack.

The online environment is a preferred method to spread an attacker's message, as it has the potential to spread beyond their reach and to further inspire others. Some communications and publications were specifically shared through websites, forums, or social media platforms such as the case of the perpetrator of the Orange High shooting who used YouTube to spread videos of himself, or the Aztec High School shooter who had profiles on different online platforms like Blockland, Steam, Think Atheist, LiveJournal,

Encyclopedia Dramatica, and Kiwi Farms.[80] However, not all shooters' materials were aimed to be published online, such as those from the Columbine or the West Nickel Mines School shooters. The development of new technologies has allowed these materials to be easily accessible online, exposing more people to the materials and increasing the likelihood of them becoming influenced and inspired to commit similar acts. The access to information combined with the characteristics exploited by school shooters in their publications and communications are likely to represent the trigger point of a vulnerable individual since the constant exposure to those materials can easily influence those who already hold specific psychological, personal, or demographic characteristics.

In the majority of cases, the school shooters utilized online platforms to either communicate with others or publish their writings. The analysis highlighted the following platforms being utilized by school shooters: YouTube, Facebook, Instagram, 4Chan, Steam, The Daily Stormer, the "Shocked Beyond Belief" forum, and a variety of other forums and websites. The chosen platform is likely to depend on the moderation rules and tolerance towards posts that explicitly show or incite violence or spread propaganda of a particular political ideology. The 'Big Tech' companies such as YouTube, Facebook, or Instagram have tightened their policy towards these kinds of materials, which is likely to have triggered a migration towards less restrictive platforms. Some individuals rely on gaming platforms, websites, or forums that had little to no control, such as The Daily Stormer, 4Chan, Discord, or Steam. For their tolerance, these platforms were likely used by those shooters aiming to freely spread their right-wing beliefs.

## CONTENT ANALYSIS

The evolution of the shooters' communicative abilities implies two distinct phases: communications and publications. Their communications include journals, web postings, and other online profiles. Communications offer contextual information regarding the shooters' personal life and mental processes, as they likely begin a year or two before the attack. Publications include manifestos, photos, and video messages. The primary distinction between communications and publications is the intent, as publications are intended for audiences as a final attempt to justify their actions or inspire others; material in publications focuses primarily on the attack and its final staging, as a form of legacy for humanity.

The language used in communications and publications differs; communications read more informally while publications read more formally. In both types of documents, shooters use graphic verbiage and metaphors to convey their thoughts, likely to provide more contextual information about a person's past, ethnic background, core motivations, and level of distress. Manifestos in particular feature extensive use of pronouns, which experts link to high degrees of psychological suffering.[81] The analysis of their communications and publications indicates that these attacks are not random outbursts of violence but strategic and experientially motivated. Intercepting communications ahead of time will very likely help law enforcement detect and deter school shootings.

## Communication Analysis

School shooters' communication mediums can be dissected into two categories: physical and digital. Physical communications include hand-written journals, drawings, and sometimes school assignments, though most physical communications have since been uploaded by others online. While the Columbine attackers preferred physical mediums, most shooters turn to digital mediums to document their thoughts. Digital mediums include personal websites, internet forums, and posts/messages on various social media platforms. The decision to use online platforms instead of paper is unlikely to be a strategic choice; they likely use online platforms because of their overall convenience and increasing role in Generation Z and Millennials' lives.

Many shooters use interest-based forums where users can easily read, comment, and engage with others' posts. In some instances, such as the Sandy Hook perpetrator, the presence on these forums can teach shooters' the necessary skills to carry out attacks.[82] These forums also often create echo chambers, where shooters' violent urges are sometimes encouraged rather than mediated. The digital nature of these communications has increased their accessibility to a global audience, and shooters' messages can be amplified and increase in potency online, which almost certainly increases the likelihood of hero-worship, fame, and copycat acts.

While online, many school shooters used aliases; usernames, such as "Blades11," "Natural Selector88," and "Sanguntum89," indicate that school shooters chose online aliases that implied their beliefs.[83] The similarity in themes between

the Jokela shooter's username, "Natural Selector88," and the content of his manifesto, which discusses his hope that a new natural selection will eliminate "retarded" people, likely indicates that a school shooter's alias could also provide an insight into their worldview."[84] The Jokela shooter likely shared a fascination of "natural selection" with prior school shooters because the prior shooters also studied the works of earlier school shooters.[85] The shared fascination of certain themes with other school shooters, including Nazi ideology and large-scale violence, indicates that many studied domestic terrorists before committing their attacks.[86] Therefore, school shooters likely chose usernames and nicknames to forge a connection with other mass shooters and find acceptance demonstrating their worldviews.

Some school shooters communicated their pre-attack intentions through explicit threats, drawings, journals, school essays, or emails, as seen with the Red Lake perpetrator.[87] Some shooters prefer platforms that support multimedia content, including photos and videos. However, like with the Heath High School perpetrator, verbal communication with friends or acquaintances is the most common indicator of pre-attack intentions.[88] Because most shooters struggle to socialize in person, sharing photos and videos online likely facilitates their ability to connect with others. Experts state that visual communication often connects with audiences faster and with more emotion.[89] Verbalizing their feelings/intentions to harm others almost certainly gives the shooters an adrenaline rush, which likely increases their willingness to escalate actions later on.

The school shooters frequently mentioned other



perpetrators in their communications, commonly referring to one another as "brothers" or quoting each other's writings as the Jokela perpetrator did with the Columbine perpetrators' publications.[90] This type of relationship demonstrates how the shooters sought out male role models for guidance and considered other shooters as powerful people. As young men, they likely struggled to define their masculinity and believed that imitating other shooters' actions would enhance their social status. Exposure to and writing about other school shooters also likely increased the frequency and intensity of their violent thoughts before committing the attacks. These fantasies likely helped prepare them for their attacks by serving as mental rehearsals and desensitizing them to the suffering they would cause. Mentioning other attackers almost certainly indicates that school shooters contextualized their own experience within a timeline in which others have acted similarly, which likely fostered a sense of belonging among the community and justified their attacks.

Shooters' personal communications share common themes, such as desires for female attention, superiority complexes, and deep fascinations with weapons. Shooters such as the Emsdetten,[91] Columbine,[92] and Aztec High School[93] perpetrators describe relationships with unreciprocated feelings. The change in tone when writing about romantic interests likely indicates the shooters' attachment styles, as they tend to invest a significant amount of mental energy into unfulfilling relationships. The shooters likely saw potential romantic relationships as signs of hope until they failed to materialize. While not the primary driver of the shootings, the lack of female attention may have been a trigger point for the shooters that almost certainly pushed them

into a deeper state of depression. After experiencing heartbreak, many shooters expressed extreme hate towards women; many also held the position that women are inferior, property, or sex objects.[94] The shooters' antagonism towards women following a failed romantic relationship likely models their approaches to conflict in other relationships; their high emotional responses almost certainly contributed to challenges in maintaining a healthy social life. Shooters also antagonized those who were in relationships, which was almost certainly a coping mechanism for their failed relationships.

Several school shooters held beliefs of biological, racial, or intellectual superiority over their peers. These superiority complexes were likely inspired by Adolf Hitler and Nazism, as shooters commonly expressed admiration for Hitler and drew Nazi symbols, like swastikas and SS insignias, in their journals.[95] Some shooters were more extreme in their Nazi beliefs, such as the Columbine shooters who planned their attack on Hitler's birthday.[96] Shooters likely developed superiority complexes to compensate for their own feelings of inadequacy and inferiority. Their worship of Hitler was likely an attempt to identify with a source of power that allowed them to feel grandiose and gain widespread recognition. Shooters also likely resonated with Hitler and the practice of eliminating those deemed "inferior" as these ideas acted as a vehicle through which they could express their rage at mistreatment by peers and family members. Their shared cynical outlooks of the world are likely derived from their experiences with social isolation and mental health disorders. By perceiving the victims as inferior or subhuman as the Nazis did, school shooters could likely absolve themselves of guilt and legitimize their behavior.

For some shooters, superiority complexes took the form of overt racist, homophobic, or sexist beliefs. While victim accounts do not suggest there were any racially-motivated shootings, many of their writings explicitly indicate such beliefs, expressing ideologies more closely aligned with neo-Nazism and white supremacy.[97] Most shooters' described themselves as intellectually superior to their peers, likely rationalizing their rejection from society by minimizing the intellect of those around them. Additionally, shooters almost certainly blamed all of society's issues on those they viewed as intellectually inferior. The Jokela,[98] Columbine,[99] and Aztec High School[100] shooters all expressed that the world would be better off if intellectuals ruled society. They commonly described their peers as "idiots" and themselves as "gods," which likely indicates their perceived sense of authority and divine intervention.[101] The shooters' writings suggest they almost certainly believed they were "cleansing the world" by killing those they deemed inferior.

School shooters' online activity and personal journals indicate a deep fascination with weapons either through their engagement in firearm forums or shared photos posing with guns. Many shooters have connections to the military or law enforcement, which likely exposed them to ideas of violence and weapons. This exposure likely predisposed them to think of violence as a method of conflict resolution. As shooters suffered socially, they likely turned to guns as a means to be in control of their environments and command attention. Their inability to make friends likely led some shooters to seek a community through team-based war video games and online gun forums, which also likely taught them tactical skills. Engagement with such content not only

desensitizes shooters to violence but likely pushes them to escalate the online scenarios to real-life shootings.

### Publication Analysis

School shooters' publications, such as journals, web postings, and online profiles highlight important aspects of their personal life that they likely felt they could not share in everyday life. Within these publications, common themes such as religious ties, feelings of rejection, and hatred emerged, indicating that there are ties that connect them together in terms of behavior. Of the published manifestos, some school shooters have motivations relating to God and other aspects of the church like in the publications of STEM School Highlands Ranch, West Nickel Mines School, Emsdetten, Virginia Tech, and Umpqua Community College shootings. Many school shooters wrote about religion in their publications, including the desire to blame God for how society treats them and society's belief that they are "demon-like." School shooters likely negatively mention religion because they were looking to project blame for their mistreatment. Additionally, many school shooters believed that people were inherently bad, and they frequently used religion as a reason to explain this belief. In cases where shooters used this rationale, their publications were a way to spread their ideas after their death because they could not do so while they were alive.

In their notes and manifestos, many school shooters expressed a deep distrust of society and people. Phrases such as "of all the lives in this world, apparently mine is the only one that's meaningful" and "compared to you retarded masses, I am actually godlike" very likely indicate

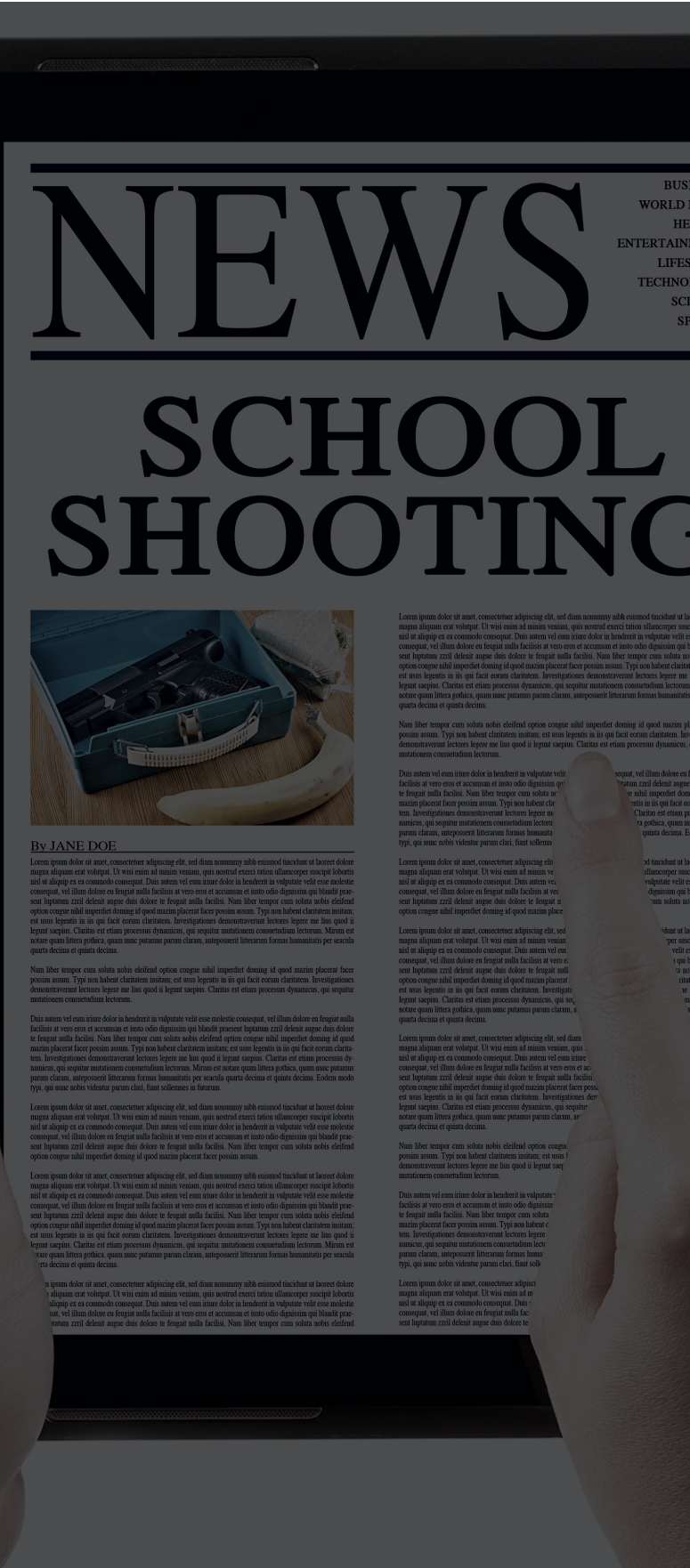
that many school shooters felt different to others. [102] School shooters likely frequently reflected on instances when they experienced feelings of superiority because they considered them to be critical to the development of their ethos.[103] Since school shooters felt superior to their family members and schoolmates, it is unlikely they saw the value in sharing their ideas and beliefs. Unable to express their radical worldviews to others, the act of writing down thoughts and ideas very likely served as an alternate way to legitimize their feelings. Therefore, writing manifestos likely provided a cathartic effect for school shooters that they could not get from the real world.

The publication of manifestos has become a tradition among school shooters. Many of the shooters likely left their names in their journals and detailed notes of how they planned their killings because they expected others to find and study their publications.[104] Later school shooters heavily referenced past terrorists in their writing because the notoriety and media attention on the writings of past school shooters likely motivated them to write their own work and commit acts of terror.[105] The process of publishing manifestos very likely created a sense of group belonging among past and future school shooters.

Written manifestos give school shooters power and attention otherwise unattainable. Several shooters likely signed their publication with their anonymous online usernames that they used in group chats because they wanted their chatmates to know their real identity.[106] School shooters also wrote phrases such as “I write this manifesto so that others will know of my story and perhaps find some solace in it, some kind of inspiration for their own lives” because they likely wanted to

significantly influence others through fear or inspiration.[107] After being able to identify with other misunderstood school shooters, school shooters likely believed that their writings could serve as a warning for mistreating people. Their goal of “standing up for others” likely self-justified their violent activity.[108] Aware that earlier school shooters garnered substantial media attention, school shooters likely intended for manifestos and notes to clarify their true motive purpose to criminal investigators and media outlets. School shooters’ publications ensured that the attacks would deliver an immediate shock, and also preserve notoriety and relevance after the event.

In addition to using religion as a way to legitimize their actions, death is another outlet used by school shooters to explain their gestures. Many school shooters felt that they were doing society a favor by ending their life. This feeling that the world would be better without them is likely the result of mental health struggles paired with exposure to graphic and violent content early on in their life. As seen in the West Nickel Mines School and Umpqua Community College shootings, both shooters had a strong sense of self-hatred and believed that the world would be better off with them dead and both held the similar belief that they were not wanted by those in their life. The desire to die, the belief that the world would benefit without them alive, and the belief that their death will help people are all consistent with isolated behavior. All these factors coupled with their online communities could likely lead the school shooters to develop an alternate understanding of reality. By isolating themselves with thoughts of being unwanted by peers or anyone in their life, they are likely ending the opportunity to develop meaningful relationships and create long-standing connections in their life.



By JANE DOE

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# IMPACT ANALYSIS

## Societal Impacts

As previously discussed, school shooters’ communications and publications have influenced school shootings worldwide. The shootings at Columbine and Sandy Hook have had the greatest impact, as these attacks have been cited as inspirations in other shooters’ communications. [109] Columbine and Sandy Hook’s influence have reached as far as Finland, Crimea, and Brazil.[110] The UK has not experienced school shootings since banning handguns in 1997, which suggests that these communications without access to guns are likely ineffective.[111] However, there is a roughly even chance that these communications inspire other acts of mass violence globally because weapons that can enable people to act are likely available in many countries.

Gun violence and school shootings have escalated in the last 20 years following the shooting at Columbine High School.[112] The previous analysis on the school shooters’ targeted audiences in this report has shown how manifestos, suicide notes, and other materials left by the shooters are likely to influence the next generation of attackers. The demographics of previous attackers likely determine who they impact, depending on their age, gender, geographic location, and political affiliation. In terms of the age range, individuals in high school or college are more likely to be influenced by school shooter communications and publications.[113] This is likely due to similarities in age, greater access to materials, susceptibility

to be influenced, and the individuals' exposure to the same experiences that school shooters have suffered in their past. Although there is no specification regarding gender, an analysis of previous attacks showed that school shooting materials have impacted more males.[114] Political affiliations are diverse among the attackers; however, there is a slight inclination to far right-wing political motivations.[115] These individuals are more likely to be from or based in the US.[116] This is likely due to easy access to guns in the US, which likely facilitates the imitation of firearm attacks. However, this is not limited to the US and is likely to affect other countries. School shooters follow a pattern of violence that anyone can replicate regardless of geographical distance or culture; when those influenced by school shooter writings can access guns a shift from admiration to attack is likely. Government officials, policymakers, and education representatives should work together to detect, prevent, and defeat potential attacks by individuals who have been influenced by the writings of school shooters.

The cycle of hero-worship has proven to be very concerning in the scope of school shootings. Many school shooters have expressed admiration for the Columbine attackers in their communication and publications.[117] When planning attacks, many perpetrators identify with the motives that drove the Columbine attackers to commit the shootings of April 1999. They saw the Columbine attackers as heroes, not because of the shooters' identities, but for their acts and the motives behind them.[118] Shootings that happened after Columbine have very likely inspired many others. The extensive media coverage and online availability of communication and publications likely increase the audience, impact, and potential admirers. Continued exposure to these kinds of materials will

likely lead to more individuals feeling connected to the perpetrators of previous shootings and regarding them as heroes. Individuals with emotional impairments, such as low self-esteem and depression, are also likely more susceptible to worshiping school shooters. Younger students, especially high schoolers, when exposed to these materials, are likely to be influenced and admire those behind the communication and publications.

The Columbine attack has inspired over 100 copycat plots, of which more than 20 were planned on the anniversary of the Columbine shooting.[119] Copycat attackers attributed titles such as "heroes," "martyrs," and "idols" to the Columbine school shooters.[120] The portrayal of the Columbine attackers as "heroes" indicates vulnerable individuals view the attack as a triumph against personal struggles, such as school bullying.[121] Susceptible individuals believe that their issues can be resolved through a similar attack when engaging with this type of content.[122] According to this report's analysis, school shootings, such as the one at Columbine, inspired and will likely continue to inspire future attacks. Since the Internet reaches a global audience, available information likely allows vulnerable individuals worldwide to engage with school shooters' communications and publications. Engaging with this type of content likely motivates people to carry out similar attacks worldwide, regardless of their motive. The call to violence, the obsession with weapons, and in some cases, direct references to Nazi ideology are common themes that likely appeal to susceptible individuals universally. However, people in the same demographic as the school shooters are more susceptible than the general public to conduct a similar attack. Future similar attacks are very likely to happen and will very likely be conducted by a

perpetrator in the same demographic as a recent attacker.

### Technological Impacts

After a mass shooting occurs, information about the perpetrator and the event is disseminated through social media and online activity.[123] With the fast-paced digital environment, journalists very likely try to be the first to report on the event with the most information. The constant reporting of the lone actors' identities and their violent activities very likely negatively impacts the victims' families if the news about the shooter's profile continues to circulate. Resharing, commenting on, and liking reports on these events almost certainly furthers the event's notoriety. If the event goes viral, the survivors and victims' families likely experience undesired attention and a lack of peace to grieve. Disseminating information on the attacks very likely benefits the lone actors, advancing their message and inciting fear. Information's ability to spread will likely urge lone actors to continue pursuing violent acts to maintain their message in the headlines.

News agencies try to release information on events as they unfold, but sharing information could likely result in unintended consequences if the information is false or assumed.[124] Incorrectly identifying a perpetrator very likely results in focusing on an innocent person and creating false perceptions of the event. These assumptions also likely distress the victims who feel they are not receiving justice or are grieving based on false information. By failing to emphasize the attack's victims, there is a roughly even chance that misinformation will highlight the shooter as a victim of mental health issues rather than focusing on the victims of the shooting. This likely impacts

the possibility and amount of compensation for victims of a shooting to the point of preventing it. The perpetrator will likely strike again if the misinformation grants them desired media attention. Perpetrators who survive their attack and are not captured by authorities could likely execute further attacks.

The Columbine school shooting demonstrated a new manner of violence in academic institutions, becoming an example for school shootings.[125] Sharing information of the methodology or tactics used in the attack along with the availability of the lone actors' manifestos online could very likely result in copycat crimes. As explicit details about the events and the stories of the victims are distributed, an audience that includes potential attackers is likely generated. Without control of the spread of information, it is unlikely that content can be restricted from being viewed by a susceptible audience intent on replicating the attack. The rise in school shootings in the US is likely due to people's ability to use the Internet to inspire lone-actor strikes. The media remains an outlet to view the blueprint of previous attacks, likely resulting in the occurrence of future attacks. Without monitoring the detailed content left online, viewers have a roughly even chance of using it to organize future attacks.

Social media apps, like Share911 and others that use Aegis Artificial Intelligence (AI), provide methods to respond to crimes in academic institutions to target violent content.[126] AI is a branch of computer science that deals with the capability of a machine to imitate human intelligent behavior.[127] As AI can collect data based on specified criteria, it is likely a useful tool to detect violent content in real-time. Share911, a New Jersey-based company, released an app after



the Sandy Hook school shooting, allowing employees to immediately report active shooters or medical emergencies to other school staff and law enforcement agencies.[128] Apps like Share911 almost certainly generate a quick response time and a safer way to contact help. Instead of speaking on the phone with the police, the app allows users to silently and quickly contact first responders, as using the app can be done stealthily. Technology will very likely be an essential tool for law enforcement and potential victims to become aware of unfolding events in their surrounding areas. School staff very likely have their phones near them, so phone apps will likely be a tool to mitigate the damage of attacks with real-time reports to law enforcement and other individuals in the area.

To mitigate the spread of violence and harmful data, social media platforms like Facebook adapted their AI to detect and block videos and images of shooting sprees like that of the Christchurch, New Zealand mosque attack in March 2019.[129] Even though they were shootings targeting religious sites, the use of social media likely applies to school shootings. In the Christchurch case, the broadcasting of a live 17-minute video, shared 1.5 million times, was removed 24 hours afterward, leading Facebook to retrain its AI and machine learning algorithms. [130] Facebook's algorithm relies on views and engagement, which almost certainly benefits shocking content such as school shooters' videos or manifestos. This issue likely led the company to retrain its AI to detect posts that presented violent content or harmful information. The need to alter a platform's detection methods very likely indicates previous countermeasures are failing to stop the spread of content inciting fear or violence. Platforms like Facebook likely possess few

restrictions regarding what content is displayed since Facebook has a global presence, and each country has its own set of data privacy rules.

Twitter aims to limit the spread of harmful language and misinformation through Safety Mode, a feature located in the account's settings that the user can turn on to report accounts with harmful language or content.[131] The user's option to use Safety Mode almost certainly raises questions regarding Twitter's role in trying to control content if features like these are not mandatory. The optionality of such features likely allows for the proliferation of violent content to continue. Media outlets will likely continue sharing information about violent events as they will not be automatically reported. Lack of regulation regarding the spread of violent school shooting-related media could likely lead to copycat attacks and a lack of justice for the victims and survivors.

The rapid proliferation of information sharing across social media platforms almost certainly changed measures to prevent and mitigate the spread of harmful data. The features on Twitter and Facebook to tag a location and post in real time likely allow the algorithm to engage in that community and spread outwardly. Knowing the location of the event very likely increases the reaction of posts in that area which increases the event's popularity and helps the posts reach a larger audience. Content posted on Twitter is unlikely to spread if users do not engage with the trending or search column content. Facebook's feed likely allows for spreadability to a larger audience as users' feeds almost certainly include more than just the activity of their followers. Posting in real-time and engaging with events in the news very likely adds to the technological impact of media dissemination of both accurate

and false information. Broadcasting media reports of the attack on social media platforms very likely encourages a larger audience to quickly respond and react to the attacks.

Social media outlets have allowed postings of attacks' live footage, as seen in the March 2019 Christchurch terror attacks.[132] Raw footage of gunmen in public or academic institutions very likely affects viewers in several psychological ways. Viewers' mental health from watching the events via social media will almost certainly be damaged as they will likely experience fear and sorrow, and victims and families will likely feel vulnerable as they continue to see the event circulate. News outlets likely make arguments based on the freedom of the press and people's right to know to prevent the removal of the videos. If the government restricts content posted online, social media platforms will very likely react negatively, arguing for freedom of expression. While media platforms are not obligated to act, publicly delegating responsibility to monitor this content will likely increase pressure to act from platform users and stakeholders. In turn, platforms are more likely to take action and mitigate the damages of violent events spreading online. Media outlets could likely adopt new policies or enable changes in account settings regarding the posting of specific content to prevent harmful results of violent news.

To reduce the likelihood of law enforcement's response to online threats, attackers very likely use non-mainstream social media and gaming platforms, like Discord or Steam, as seen in the Aztec High School shooter case.[133] Attackers very likely use these alternative platforms because of reduced content moderation compared to companies like Meta. Discord and Steam are likely

less regulated, more encrypted, and decentralized, allowing for a rapid, uncontested spread of the content on those platforms. Smaller platforms are unlikely to have technology teams or AI training capabilities to monitor their traffic for violence or harmful content. The lack of monitoring very likely attracts threat actors to plan or incite violence online that is likely to inspire others or themselves to act. Having another outlet to spread violent information almost certainly has the same damaging effects as mainstream media if harmful content can rapidly spread.

## COUNTERMEASURES

Governments and institutions have adopted various measures to counter shooters' communications, especially about school shootings, such as legislative initiatives, improvements in mental health services, and more responsibility for social media platforms. These are recent measures, as the phenomenon of violent propaganda has likely grown in past years due to the widespread use of social media. There was also little awareness in the past due to a lack of understanding that communications could play a significant role in identifying potential school shooters and in the copycat effect after the attack. If authorities had employed these strategies after the Columbine attack there would have likely been significant preventative control over potentially harmful people, avoiding many attacks due to an increased amount of awareness. As social media platforms demonstrate, these countermeasures can now also combat extremist content in general, given that the dynamics are similar. However, these measures are still insufficient due to their

limited penetration and the amount of violent propaganda on the internet.

Since the media plays a crucial role in amplifying the news of school shootings, the parents of a victim of the 2012 Aurora attack have launched the No Notoriety protocol in the US. This protocol advises the press to limit a perpetrator's identity in headlines and avoid details about their biography, writings, and belief system.[134] Shifting the focus to the victims and not on the perpetrator and their communications/publications helps avoid the imitation effect. Since the quantity of media coverage about mass shootings frequently correlates with the number of shootings that occur the following week, this protocol likely prevents attacks from cascading and minimizes the number of shootings.[135] The media, however, continues to prefer naming the perpetrators because it attracts more audiences and increases advertising revenue. In addition, the lack of regulatory institutions for communications technologies in many countries and a strict code of journalistic self-regulation do not allow for better control over media conduct.

Some social media platforms, like Facebook, have recently begun testing alerts that connect users to anti-extremism services if the company believes the user knows someone on the path to extremism or has seen extremist content.[136] The test is part of a response by several tech companies to the Christchurch Call for Action campaign in the aftermath of the 2019 attack in Christchurch, New Zealand.[137] These voluntary partnerships between governments and social media, which improve public-private collaboration and information sharing with law enforcement, will likely predict potential threats. As a result, numerous social media platforms, such as Twitter

and Facebook, have gradually modified their policies and are increasingly deleting extremist content through AI. However, many algorithms are still likely to fail because of the companies' weak content moderation due to current algorithms, which often fail to detect and delete all extremist data. The more violent the content that people search for, the more violent the material that many algorithms generate, resulting in the reverse effect of amplifying rather than reducing violence. It couples with Section 230 of the 40 US Code 47 which doesn't make tech companies liable for the content distributed over their platforms.[138] Social media platforms are not required to determine what constitutes extremist content, and they unlikely have the necessary background to do so. Freedom of speech and respect for human rights are likely to prevent social media platforms from abusing their control, further reducing their liability.

Several schools in the US and Europe teach social media literacy.[139] Many US school districts also collaborate with private companies to monitor their students' social media postings, as happens in Alabama and California.[140] Attending social media literacy classes likely has a high preventive value since it entails learning to think critically, determine if messages are logical or dangerous, recognize and accept different points of view, and take responsibility. Numerous technology companies have specific software that allows them to access logs and web pages that students have created. As a result, they can remove students' anonymity and make them responsible for their actions. It is unlikely that monitoring internet activity will differentiate between those who are curious about this content versus those who take action from it. This surveillance could likely violate citizens' right to privacy. As these companies allow

users to search for keywords related to cyberbullying, firearms, and drug usage, teachers and parents may conduct targeted screenings. Before a school shooting happens, the intervention and preventative action taken by counselors, families, and districts will almost certainly enhance safety for all students. There is a significant legal question over a student's privacy rights, which is a gray area that will likely result in a great deal of litigation. Further research on balancing freedom of speech and privacy will likely assist in finding a solution to educate students on safety without violating any legal barriers.

Families discovered after the Stoneman Douglas shooting that law enforcement had previously received tips about the attacker.[141] If anonymous reporting systems such as P3 Campus or Safe2Tel programs had been in place, students, teachers, and parents would have likely reported various issues on their phones, ranging from violent threats to warning signs such as dangerous written and verbal communications. The anonymous nature of such programs would have likely reassured students who feared retribution for reporting concerning behavior. Research presented in this report indicates that shooters typically share communications or indicators of their plans prior to the attack online, which almost certainly increases the platform's ability to prevent and stop attacks. Since there are generational differences in language between shooters and adults, students are more likely than adults to quickly detect concerning language and use anonymous reporting systems to convey their concerns, including screenshots from social media posts and other supporting information. These anonymous systems can likely provide critical information on suicide, drugs, and bullying in addition to school violence.

The Sandy Hook Promise, developed after the Sandy Hook Elementary school shooting, is a mission dedicated to ending school shootings and fostering change that prevents violence and other attacks that hurt children in the future.[142] Creating a system focused on educating society on warning signs commonly seen in school shooters, like their communications/publications system, creates a safer environment in and out of school. The program volunteers that use research-based education and advocacy techniques with the public will likely convince more people to get involved and spread the reach of the Sandy Hook Promise message. As a result of the lessons learned through this program, children are better protected and large amounts of anonymous tips have been received, indicating a higher level of awareness within the school system.[143] As this program continues to grow and educate on the warning signs of school shooters, there will likely be a higher number of trained individuals who can act safely and effectively in a school shooting situation.

As in the cases of the Columbine and Virginia Tech attacks, many future shooters are likely to reveal clues to their mental state and intentions in school assignments such as essays, video courses, or plays.[144] Because enrollment is mandatory for all children, schools are the optimal site for mental health screening. These facilities can identify problematic patterns and communications because they provide a wide range of services, including assessment, therapy, and case management. They can also help teachers and principals to recognize and report inappropriate content to psychiatrists, who can alert law enforcement. However, due to a lack of funding and expertise, these centers are still limited in size, technology, and human assets. Due to financial

reasons or the competitiveness of access to these programs, transitioning from school-based psychiatric surveillance to ultimate hospitalization does not always yield success.

There are general preventative countermeasures available, such as the Social-Emotional Learning (SEL) program, successfully implemented in over 26,000 schools worldwide which teaches empathy, communication, emotion management, problem-solving, and nonviolent conflict resolution skills. [145] Since students learn to engage, write about their emotions, and read and respect the feelings of others, the impact of Social-Emotional Learning on their communications is likely significant. This program presents an open communication model in which students write to connect positively and communicate their feelings through emotion management. Consequently, it avoids the transition to a soliloquy writing model (which is common among school shooters), in which people convey solely their emotions which are frequently disturbed. As a result, bullying is discouraged, which is one of the triggers for school shooters. [146] However, given the number of responsibilities that teachers and school counselors currently have, this is likely to be challenging to prioritize.

The FBI issued a Threat Assessment on the Safety of Schools, which seeks to identify and provide insight on combating/preventing school shootings. [147] Multiple recommendations in this assessment will almost certainly assist in ensuring the safety of schools. By providing multiple recommendations such as addressing disorderly conduct, training, upgrading building security, and preparing in advance for school shootings, shootings are likely to decrease. This assessment provides a framework for precautionary actions

likely to prepare schools for various threats regarding student violence. The final part of each chapter of the Threat Assessment provides recommendations to provide dual assistance by having separate suggestions for the Federal government, state communities, and local communities. Providing specific recommendations to macro and micro-level authorities is likely to assist in providing successful prevention at different levels. An additional Threat Assessment by the FBI recommended that additional research should focus on verbal and written warning signs of violence.[148] To provide surveillance on both forms of pre-indicators, it requires finding an approach that will not violate freedom of speech and users' privacy. It is likely that teaching students about possible indicators and the risks they bring will increase students' confidence to report suspicious behavior. The secondary effect of this is likely to spread awareness and assist in pre-planning an impending attack. The FBI refers to these indicators as "leakage" and believes students "are often in the best position to see and hear signs or cues of potential violence, and training." [149] It is almost certain that this targeted audience is an adequate fit to assist in detecting potential threats, as they are surrounded by methods of communication. By educating and choosing this audience, the stigma of coming forward about threats will likely decrease. With the rise in social media platforms, this type of training and education will likely serve the schools best benefit on prevention methods.

Since the Columbine shooting, US federal and state governments have proposed a variety of measures to respond to school shootings. The timing of many executive actions and legislative proposals suggests that the significant media attention school shooter incidents generate

numerous legislative and executive initiatives. The wide variety of the types of executive actions and proposals indicate that federal and state governments seek to prevent, mitigate, and recover from these types of attacks. The steady rise in school shootings since the Columbine shooting and the few bills written into law suggest that the legislative activity has failed to prevent school shootings. Executive actions which have developed a series of partnerships that allow for quick dissemination of information on best practices to create better school climates, law enforcement response mechanisms, and recovery plans have likely reduced the likelihood and severity of attacks.

Executive branch reports published during the George W. Bush,[150] Barack Obama,[151] and Donald J.Trump[152] US Administrations have disseminated best practices and created stakeholder dialogues that reduce the severity of and even prevent school shootings. Dialogue initiatives, such as the FBI School Safety Summit, training seminars, the Federal School Safety Commission (FSSC), and roundtable discussions between federal departments and schools have likely spread research-supported methods to address school shootings.[153] The disparity between many federal legislative proposals, which seek to increase background checks for firearms purchases, and executive action recommendations, which stress the importance of improving mental health resources and character building in schools, suggests that executive action reports have not significantly influenced congressional policy.[154] Numerous Department of Education grant programs likely have ensured that schools unable to pay for the preventative equipment and programs receive funding. These measures likely assist in reducing the severity of

school shootings; the FSSC concluded that the Stoneman Douglas shooting could have been a lot worse if the school had not undergone a security drill six weeks prior, a consistent recommendation amongst the reports and law enforcement.[155]

Many congressional representatives have proposed legislation to increase preventative measures and decrease the accessibility of firearms, though few passed into law on a federal level. The failure of the STOP School Violence Act of 2018 to pass the Senate, for example, prevented grant opportunities for states, local governments, and Indian tribes to invest in deterrent measures such as metal detectors.[156] As the bill passed 407-10 in the House of Representatives and President Trump endorsed the bill, it is unlikely that partisan gridlock prevented the bill's writing into law.[157] The FIX NICS Act, signed into law in 2018, strengthened the federal firearms background check system.[158] The types of legislation proposed in Congress, which emphasize preventative measures over disrupting communication, indicate that the national conversation on school shootings revolves around the prevalence of gun violence.

State and local governments have passed hundreds of laws between 1999 and 2019 to address school shootings.[159] The significantly higher number of laws passed in 2012 and 2018, when the high-profile Sandy Hook and Stoneman Douglas shootings took place, indicates that many laws were passed in response to previous mass shootings.[160] The continuity between the texts of the legislative proposals and the recommendations of executive branch reports indicate that state and local governments accept the help of federal agencies such as the Department of Education.[161] The wide variety of



bills passed into law, which address cyberbullying, school culture, school security, and training, suggests that the state and local governments also consider the recommendations of many stakeholders.[162] The Safe School and Citizen Education Demonstration Program, which tests public/private partnerships to give mental health resources to low-income areas, likely helps ensure that federal funding and support reaches every school.[163] The lack of uniformity between the number and type of laws states have passed indicates that many schools have legal vulnerabilities that could allow for greater chances of school shooters.[164] However, the discontinuity is also likely a reflection of the belief that no universal approach to preventing terrorist acts at all schools exists.[165]

Other countries have proposed legislation to combat school shooter threats. The emphasis on increasing background checks and restrictions on firearms purchases suggest that many legislators around the world view gun ownership as a primary problem.[166] The mass shootings of 2006 and 2009 indicate that the increased gun restrictions in Germany after the 2002 mass shooting in Winnenden were ineffective. A German Parliament proposal to ban paintball out of fears that it incites youth violence likely did not become law because of broader questions about democratic freedoms. [167] The comparatively small sample size of mass shootings in Germany likely makes it difficult to definitively conclude whether these policies impacted the frequency of such attacks. The lack of school shootings in Finland after the government advocated for stricter gun laws in response to school shootings in 2007 and 2008 indicates that such measures succeeded. Widespread dissemination of best practices and research has likely shifted the recent focus of

governments on cyberbullying and mental health support to prevent school shootings.[168]

## CONCLUSION

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The number of school shootings in the US has likely increased due to the rising hero-worship of past school shooters and easy access to firearms. The cycle of hero-worship is likely supported by a lack of regulation over communications and publications of past school shooters. The analysis indicates that many communications and publications by school shooters did not have a target audience, likely to ensure that their message was received and read by a wide audience. The content analysis highlighted common characteristics and experiences among the school shooters including extremist religious views, societal distrust, bullying experiences, troubled friendships, romantic relationships, superiority and ego complexes, and/or neo-Nazism. These key themes almost certainly provide insight into the niche online sphere that worships past school shooters. School shooters will likely continue using alt-tech and small social media platforms or forums such as 4Chan or Steam to leverage their lack of content moderation regulations. According to the content analysis, current countermeasures are moderately effective due to the cyclical nature of hero-worship of school shooters. Relevant stakeholders, such as governments, law enforcement agencies, policymakers, and educational institutions, need to take effective action to mitigate the dissemination of school shooters' communications and publications to prevent school shootings.

## RECOMMENDATIONS

While the current countermeasures to reduce the impact of school shooters' communications and publications have begun to consider the threat of these documents, they have proven marginally effective.[169] Countermeasures thus far have focused on legislative changes and improving access to mental health services, while little attention has been given to the tactics, techniques, and procedures used by school shooters in disseminating their content. Based on the analysis of school shooters' communications and publications, target audiences, and the impact of these documents, the CTSC, CICYBER, and B/L Teams make the following recommendations.

- Local and state governments, policymakers, law enforcement, academia, social media companies, media organizations, and educational institutions should work together to develop an appropriate solution to reduce the risk of school shootings. This solution should include this report's previous proposal of potentially banning online manifestos of school shooters or reducing the media coverage of these attacks. Gun control measures should be considered by the US government and educational institutions should establish mandatory protocols to prepare staff and students to respond to school shootings.
- State governments and law enforcement agencies such as National Security Agency Police (NSAP) should refer to the FBI's multivariable Threat Assessments to reduce the likelihood of school shootings. The

multivariable Threat Assessment will likely help different levels of government, such as state or local government, to develop countermeasures that fit their needs.

- NGOs and academia should increase research on school shooter profiles, including their tactics and triggering factors that lead them to commit attacks. This research should incorporate perspectives from key stakeholders from academia and security agencies, to ensure that schools are adequately prepared for active shooter events. The research should also analyze the impact of communications and publications of school shooters to assist social media and tech platforms to mitigate the threat of harmful material.
- The media should omit shooters' names and any references to previous shooters and their manifestos, as this reduces the likelihood of emulation from at-risk individuals. Limiting the publication of drawings, graphic material, and images of the shooters' faces, weapons, or uniforms will also minimize the likelihood of copycat shooters. As many school shooters often suffer from mental illnesses, mental health experts should emphasize that not all individuals with mental illnesses are violent, to prevent social stigma about mental health issues. Media organizations should refrain from engaging in sensationalism and impose sanctions on the organization's board, to deter other media organizations and journalists.
- Reports about school shootings should serve a public service function by including anti-suicide hotlines or support groups for readers and at-risk individuals and their families. These

resources will likely present readers with healthy response mechanisms to reduce the possibility of being influenced by these violent acts.

- Social media companies should implement warnings about school shooter-related content which notifies users that the information can be misleading. Social media platforms introduced a similar measure to reduce the impact of fake news about COVID-19 on individuals by advising users about legitimate information sources when they were engaging with COVID-19-related content. Social media platforms should use software that flags misleading or harmful content to recognize and flag content written by or about school shooters.
- Facebook's AI training should be emulated by other platforms. Meta, the parent company of Facebook, Instagram, and Whatsapp, is pushing back the release of its new default end-to-end encryption (E2EE) for all its platforms to 2023.[170] The new E2EE security scheme is part of the three-pronged approach that employs non-encrypted data, like user account information and user reports, to improve safety and deter illegal behavior in chats, across the three platforms.[171] This approach will very likely prevent the dissemination of harmful and violent content in users' chats. While Meta's three-pronged approach focuses on chats, social media companies should invest in training their AI to detect and remove posts about violent content from their websites. Through this AI training, social media platforms will very likely increase their ability to deter content by improving their AI's capacity to recognize and take down violent content.
- Smaller social media platforms and less technologically-developed alternative platforms that are likely unable to implement AI training to regulate content should include security options that users can enable in their settings to avoid engaging with violent content. Smaller social media platforms should emulate Twitter's Safety Mode, which gives users the option to report and remove certain content from their feed. Though personal security settings to report violent content will be an individual choice, this feature will likely prevent users from being emotionally affected by the graphic content, mitigating the influence of violent content online. While this setting will not prevent users from posting violent content on social media platforms, it will likely mitigate the influence and reach of violent content online. With the option to enable the security mode, smaller platforms will likely prevent the rapid spread of violent content to all users.
- Attackers will very likely publish manifestos or communicate their messages to incite further violence and use the media to spread their message. Social media companies should train AI that uses a first originator trace algorithm to better identify where the source of the violent information originated. A tracing algorithm can indicate the starting point of a post so that the platform can block the replication of that data. [172] This trace algorithm will likely be able to sort through all posts similar to the original one and prevent the information from spreading to different users. The trace algorithm should be used by social media companies after a school shooting to mitigate the effects of the attacker's publications and other violent information that spreads rapidly.

- Collaboration between public and private sector agencies to enhance apps like Share911 will very likely help in onsite deterrence and response to a school shooting. Government, social media platforms, and technology firms will very likely develop the capabilities of existing apps like Share911 to create a hub of information and actionable points so users can report an active threat or attack. Having a central point of action for threats like school shootings will almost certainly allow for notifying or alerting the relevant team of responders and avoid confusion with other emergency alerts that come about from current protocols like 911 or other emergency numbers. The silence of pressing a button on an app rather than calling authorities will very likely allow school faculty and staff to alert agencies of a possible threat without the likelihood of getting caught by a perpetrator.
- Schools should ensure that their active shooter drills include planning and preparations for unknown perpetrators as well as perpetrators who are alumni. This report's analysis highlighted that many school shooters target the school they currently attend or have attended, as they are likely to be aware of the school's active shooter protocols. Schools should ensure that they are prepared for an attack from current students by providing the staff with alternative directions in active shooter drills in such circumstances.
- School staff and faculty should be provided media literacy training, which will allow the staff to equip students with the required skills for critically analyzing and evaluating the information on school shootings reported by all forms of media. Students should be able to identify harmful communications or publications online and alert authorities.
- Schools should develop programs for both teachers and students on how to identify indicators of an attack. Designing a program for students and teachers where individuals can share their thoughts about the indicators of a potential attack and ask about how to react in an active school shooting will likely create a supportive environment where everyone can be alert and protect themselves. Current programs rely heavily on teachers making decisions for students.[173] While these programs may be appropriate for elementary and middle school students, programs that engage all age groups are likely to better prepare individuals for an attack. These programs should train students to protect themselves if there are no teachers or faculty present. Programs for high school students should consider that students are very likely to be caught in potentially dangerous situations due to their flexible class schedules, which require them to move around the campus.
- Parents, legal guardians, school staff, and students should be trained to identify the warning signs in juveniles who may pose a risk to themselves or others. Warning signs are likely to include anxiety, depression, suicidal thoughts, self-isolation, a fascination with weapons, aggressive behavior, or the threatening of physical harm to others. This would enable at-risk individuals' families to identify concerning behavior early, providing vulnerable individuals with timely access to mental health support. Reporting mechanisms need to be clear for students, staff, and

parents, so they know how to effectively proceed when witnessing concerning behavior.

- Subject matter experts should focus on training both educators and students on how to engage with social media after a school shooting. Following an attack, social media will almost certainly be filled with content related to the event. Extremists will likely leverage the emotions of victims and try to instill fear through social media posts. Educators and students' training should incorporate how to approach these online threats. This training should incorporate the advice of law enforcement, school officials, researchers, and students to create a multiperspective approach to responding to threats from social media. Copycats will likely leverage these events to scare the school staff or get a day off from school by making fake threats.
- Schools should ensure that conflict and aggression management training is available to all students. By providing students with better tools to manage their emotions, these programs will likely acquaint juveniles with multiple avenues for handling their troubles and concerns, making it less likely for them to fall into major depressive disorders, anger, suicidal thoughts or anxiety.

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# Appendices.

## APPENDIX A

Date	School	Location	Fatalities (<18)	Fatalities (18+)	Injuries
12/06/1989	École Polytechnique de Montréal	Montréal, Canada	0	14	14
03/13/1996	Dunblane Primary School	Dunblane, Scotland, UK	16	1	15
12/01/1997	Heath High School	West Paducah, Kentucky, US	3	0	5
04/20/1999	Columbine High School	Columbine, Colorado, US	12	1	27
04/26/2002	Gutenberg Secondary School	Erfurt, Germany	2	15	4
11/08/2005	Campbell County High School	Jacksboro, Tennessee, US	1	0	2
03/12/2005	Red Lake Senior High School	Red Lake, Minnesota, US	6	4	5
08/30/2006	Orange High School	Hillsborough, North Carolina, US	0	1	2
10/02/2006	West Nickel Mines School	Bart Township, Pennsylvania, US	5	0	5
11/20/2006	Emsdetten School	North Rhine-Westphalia, Germany	1	0	22
04/16/2007	Virginia Tech College	Virginia, US	0	32	23
11/07/2007	Jokela High School	Jokela, Finland	5	4	13
01/05/2011	Millard South High School	Omaha, Nebraska, US	0	2	2
04/07/2011	Tasso da Silveira Municipal	Rio de Janeiro, Brazil	12	0	22
12/14/2012	Sandy Hook Elementary	Newtown, Connecticut, US	20	6	2
10/01/2015	Umpqua Community College	Roseburg, US	8	1	8
12/07/2017	Aztec High School	New Mexico, US	0	2	0
02/14/2018	Stoneman Douglas High School	Parkland, Florida, US	14	3	17
05/07/2019	STEM School Highlands Ranch	Douglas County, Colorado, US	0	1	8
05/11/2021	Gymnasia No. 175	Kazan, Russia	7	2	23



# SCHOOL

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